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JAMES WATT.

James Watt was born at Greenock, Scotland, on the 19th of January, 1734. His great-grandfather owned a small estate in Aberdeenshire; but having joined in Montrose's insurrection, he was killed in battle, leaving an infant son to be brought up by relatives. When the orphan child grew up he, showed great capacity for mathematical pursuits, and followed the profession of a teacher of mathematics in Greenock, where he died at the age of ninety-one. Two sons survived him: the elder, John, adopted his father's profession, to which he added that of a surveyor, and was much employed in Ayr and Glasgow, but died a few years after his father; the younger, James, was a block-maker and ship-chandler in Greenock, engaging occasionally also in ship and house building and general trading. He was an active and enterprising man, much esteemed by his fellow citizens, who chose him to fill some of the municipal posts of honour. Latterly, however, his concerns did not prosper—perhaps he had too many trades—and he retired from business with reduced means and impaired faculties, some years before the close of his life. His family consisted of two sons—James, the subject of our sketch, and John, who was drowned at sea in his twenty-third year. Of the mother, Agnes Muirhead, little is known, farther than that she belonged to a respectable family, so that we have not the means of discovering whether this case affords confirmation or the reverse of the assertion so often made, that the mothers of great men are almost always found to be persons of superior mental endowments.

When a child, James Watt's health was so delicate, that his school education was much interrupted. His mother taught him reading, his father writing and arithmetic. As is often the case with children compelled by ill health to a sedentary life, he became an incessant reader, and likewise formed habits of reflection far beyond his years. Some anecdotes of his childhood, which have been preserved, show how early the peculiar bent of his genius developed itself. A gentleman one day calling upon his father, observed the child bending over a marble hearth, with a piece of coloured chalk in his hand. "Mr. Watt," said he, "you ought to send that boy to school, and not allow him to trifle away his time at home." "Look how my child is employed before you condemn," replied the father. The gentleman then observed that the child had drawn mathematical lines and circles on the hearth. He put various questions to the boy, and was astonished and gratified with the mixture of intelligence, quickness, and simplicity displayed in his answers. He was then trying to solve a problem in geometry Another story tells how his aunt, Mrs. Muirhead, sitting with him one evening at the tea-table, said, "James, I never saw such an dle boy! Take a book, or employ yourself usefully; for the last half-hour you have not spoken a word, but taken off the lid of that kettle and put it on again, holding now a cup and now a silver spoon over the steam, watching how it rises from the spout, and catching and counting the drops of water. At the same time the boy showed other talents of a very dissimilar kind. Nobody could tell a story like James Watt. His mother once left him in Glasgow, at the house of a friend, and was astonished, on her return, by a request from the lady whose guest he was, to take her son home; for, said she, "I cannot stand the degree of excitement he keeps me in: I am worn out for want of sleep. Every evening, before ten o'clock, our usual hour of retiring to rest, he contrives to engage me in conversation, then begins some striking tale, and, whether humorous or pathetic, the interest is so overpowering, that the family all listen to him with breathless attention, and hour after hour passes unheeded." This accomplishment he retained in an extraordinary degree through life; and those who went into his company with the expectation of finding a grave, reserved man, absorbed in his own peculiar pursuits, were astonished to meet instead, one of the most genial, humorous, and fascinating companions. The lad had a taste for all kinds of knowledge, and everything he took up he studied with characteristic enthusiasm. On the banks of Loch Lomond, whither he was often sent for health, botany and the traditional lore of the neighbourhood were his delight. At home, chemistry, and natural philosophy in various branches, with medicine, surgery, and mechanical contrivances, filled up his busy hours.

At the age of eighteen he went to London, to learn the business of a mathematical instrument maker; but in little more than a year was compelled, by ill health, to return home. The two following years he spent under the paternal roof or in visits to his mother's relatives in Glasgow. He was not idle, however, but diligently occupied in perfecting himself in his business. In 1757, he determined to settle in Glasgow, but some of the trade's corporations stood on their privileges, and would give no place to the new comer. In this dilemma, the professors of the university kindly came to his relief, and naming him mathematical instrument maker to the university, gave him apartments within their premises, in which to carry on his business. The University of Glasgow could then boast of Adam Smith, Robert Simson, Dr. Black, and Dr. Dick, and it may be inferred that the person who could at twenty-one secure their zealous aid, must have given no doubtful indications of ability. Here Watt formed a lasting friendship with Dr. Black, and about the same time commenced his friendship with Robison, who was then a student at Glasgow, and afterwards professor of natural philosophy in the University of Edinburgh. The intelligent young instrument maker's shop became a favourite resort with the choice spirits of the place, in which to discuss all curious questions in science, art, or literature. "Whenever any puzzle came in the way of us students," says Robison, "we went to Mr Watt. He needed only to be prompted; for everything became to him the beginning of a new and serious study, and we knew that he would not quit it till he had either discovered its insignificancy, or made something of it. He learnt the German language in order to peruse Leopold's 'Theatrum Machinarum.' So did I, to know what he was about. Similar reasons made us both learn the Italian language. When to his superiority of knowledge is added the naïve simplicity and candour of Mr. Watt's character, it is no wonder that the attachment of his acquaintances was strong. I have seen something of the world, and I am obliged to say I never saw such another instance of general and cordial attachment to a person whom all acknowledged to be their superior. But this superiority was concealed under the most amiable candour, and a liberal allowance of merit to every man." Here is an instructive picture. A young tradesman, most diligent in his workshop labours, yet finding time to learn foreign languages, and acquire so much general information as to be the superior companion of men, whose lives were spent in intellectual pursuits. And how charming, too, the modesty and candour which accompanied his great attainments. This is the crowning grace of all.

In 1763, he left the college, and opened a shop in the town, previously to his marriage with his cousin, Miss Miller. The steam engine had been a frequent subject of conversation with his friend Mr. Robison, who had suggested the possibility of applying steam power in moving wheel carriages. In the year 1761 or 1762, Watt had tried some experiments on the force of steam in a Papin's digester, but it was not until the winter of 1763-4 that the incident occurred which led to his great discovery. The history of this event had better be given in the words of his son, taken from the memoir of his father, furnished by him to the Encyclopædia Britannica. A working model of a steam-engine, upon Newcomen's construction, had been sent him for repair by Anderson, professor of natural philosophy. "When he had repaired it and set it to work, he found that the boiler, though large in proportion to the cylinder, was barely sufficient to supply it with steam for a few strokes per minute, and that a great quantity of injection water was required, though it was but slightly loaded by the pump attached to it. It soon occurred to him that the cause lay in the little cylinder (two inches diameter, six inches stroke), exposing a greater surface to condense the steam than the cylinders of larger engines did, in proportion to their respective contents. By shortening the column of water in the pump, less steam and less injection water were required, and the model worked at a proper speed. Thus the purpose for which it was put into his hands was accomplished, and with this mode of accounting for the defect, and this result, most artists would have been satisfied; but the case was different with Mr. Watt. He had now become aware of a great consumption of steam, and his curiosity was excited to a more accurate investigation of the causes, in which he proceeded in a truly philosophical manner. The cylinder of his small model being of brass, he conceived that less steam would be condensed by substituting cylinders of some material which would transmit heat more slowly. He made a larger model, with a cylinder (six inches diameter and one foot stroke) of wood soaked in oil and baked to dryness. He ascertained from experiments made with boilers of various constructions, that the evaporation of boiling water is neither in proportion to the evaporating surface nor to the quantity of water, as had been supposed, but to the heat that enters it, and that the latter depends chiefly on the quantity of surface exposed to the action of the fire. He likewise determined the weight of coal required for the evaporation of any given quantity of water. Being convinced that there existed a great error in the statement which had been previously given of the bulk of water when converted into steam, he proceeded to examine that point by experiment, and discovered that water converted into steam of the heat of boiling water was expanded to 1,800 times its bulk, or, as a rule for ready calculation, that a cubic inch of water produced a cubic foot of steam. He constructed a boiler to be applied to his model, which showed, by inspection, the quantity of water evaporated, and consequently enabled him to calculate the quantity of steam used in every stroke of the engine. This he now proved to be several times the volume of the cylinder. He also observed that all attempts to improve the vacuum, by throwing in more injection water, caused a disproportionate waste of steam; and it occurred to him that the cause of this was the boiling of water in vacuo at very low heat (recently determined, by Dr. Fuller, to be under 100°), consequently, at greater heats, the injection water was converted into steam in the cylinder, and resisted the descent of the piston. He now perceived clearly, that the great waste of steam proceeded from its being chilled and condensed by the coldness of the cylinder before it was sufficiently heated to retain it in an elastic state, and that, to derive the greatest advantage, the cylinder should always be kept as hot as the steam which entered it; and that when the steam was condensed, it should be cooled down to 100°, or lower, in order to make the vacuum complete. Early in 1765 the fortunate thought occurred to him of accomplishing this by condensing the steam in a separate vessel, exhausted of air, and kept cool by injection, between which and the cylinder a communication was to be opened every time steam was to be condensed, while the cylinder itself was to be kept constantly hot. No sooner had this occurred to him than the means of effecting it presented themselves in rapid succession. A model was constructed, and the experiments made with it placed the correctness of the theory, and the advantages of the invention, beyond the reach of doubt.

In the course of these trials he was much struck by the great heat communicated to the injection water by a small quantity of steam, and he proceeded by a very simple experiment to satisfy himself upon that subject, when he discovered that water converted into steam will heat about six times its own weight of water at 47° or 48° to 212. He mentioned this extraordinary fact to Dr. Black, who then explained to him his doctrine of latent heat, to the support of which Mr. Watt had afterwards the satisfaction of contributing his experiments. From some of these he was led to suppose the latent heat of steam to be above 1,000°, but he afterwards considered 960° a more accurate determination. From others he deduced the important conclusion that the sum of the latent and sensible heat of steam, at different temperatures, is a constant quantity, the latent heat increasing as the sensible heat diminishes, or, in other words, that a given weight of water in the state of steam contains nearly the same quantity of heat, whatever may be the bulk or density of the steam.

The invention now complete, the next consideration was how to obtain funds to execute it on a large scale. At length Mr. Watt applied to Dr. Roebuck, of the Carron Ironworks, and a partnership was formed, by the terms of which Dr. Roebuck was to receive two-thirds of the profits of the improvement. A large steam-engine was then constructed by Mr. Watt, at Kinneill, near Borrowstonness, Dr. Roebuck's residence; the trials with which realised their most sanguine anticipations. Soon after, however, Dr. Roebuck's circumstances became embarrassed, and this, along with Mr. Watt's engineering engagements, delayed for some time the introduction of his discovery to the public.

A patent was obtained for it in 1769, but for some years nothing further was done in regard to it. In the meantime Watt had relinquished his business of mathematical instrument maker, and adopted that of civil engineer. In 1767, he made a survey for a canal of junction between the rivers Forth and Clyde, by what was called the Lomond passage, but the bill for it was lost in Parliament. He surveyed and superintended the making of the Monkland Canal. For the Crinan and Caledonian Canals, also, surveys were made by him at different times; the former was executed several years afterwards by Mr. Rennie, and the latter by Mr. Telford, on a much larger scale than was originally intended. He was employed likewise in improving the harbours of Ayr, Port Glasgow, and Greenock, in deepening and improving for navigable purposes the Clyde and other rivers, in building bridges at Hamilton and Rutherglen, and other works of public utility. While engaged in one of his surveys, in the end of 1773, he received the afflictive intelligence of the death of his wife, who left him a son and daughter.

Not long after, Mr. Boulton, of Soho Foundry, near Birmingham, a man of great intelligence and enterprise, and possessing large capital, bought Dr. Roebuck's interest in the steam-engine patent, and took the inventor into partnership—a connexion fortunate for the parties immediately concerned, and most important in the history of the world's material progress. Watt now removed to England, and obtaining an extension of the term of his patent to twenty-five years, the making of steam-engines was commenced at Soho by the firm of Boulton and Watt. About this time he entered into a second marriage, with Miss M'Gregor, the daughter of an old Glasgow friend, and in her we are told he found "a zealous and able coadjutor."

The engines made at Soho were at first only used for mining purposes. They were soon introduced into Cornwall, and found of the greatest value. The saving in fuel amounted "to three-fourths of the quantity consumed by those of the best construction previously in use." The patentees were entitled to a third of this saving. Many attempts, however, were made to defraud them of their dues, as well as to pirate Watt's inventions. From 1792 to 1799, they were engaged in vexatious law-suits in defence of their rights. Watt jocularly writes to his friend, Dr. Black:—"We have been so beset with plagiaries, that if I had not a very good memory of my doing it, their impudent assertions would lead me to doubt whether I was the author of any improvements in the steam-engine, and the ill-will of those we had most essentially served, whether such improvements have not been highly prejudicial to the commonwealth." All the proceedings terminated in the full confirmation of Watt's claims. During these years enterprising men were engaged in various quarters in attempting to adapt the steam-engine to water conveyances Long before Watt's time, indeed, the practicability of employing steam power in navigation had been frequently suggested. Towards the close of the seventeenth century, both Savary and Papin indicated the possibility of some such use being made of their engines. In 1730, Dr. John Allen "proposed to give motion to vessels by forcibly ejecting a stream of water or current of air from their stern;" and seven years after, Jonathan Hulls published an account of a steam-boat invented by him. "In 1757, the celebrated Daniel Bernoulli, in an essay which obtained a prize from the Academy of Sciences, after demonstrating the effects of many mechanical contrivances which might be substituted for oars in moving vessels, suggests paddle-wheels moved by steam power or the force of gunpowder." About seventeen years later, experiments with steam-boats were made on the Seine by the Comte d'Anxiron, under the auspices of a company formed for the purpose. They failed, and a year or two after were repeated by M. J. L. Perien, with improved machinery, but not much success. All similar attempts showed the same results, till Watt's engine, with its wonderful power of universal adaptation, was brought into use.

The first really successful steam-boat experiment was made in Dalswinton Lake, Dumfriesshire, in October, 1788, by Mr. Miller, of Dalswinton. This gentleman had been experimenting for some time on the best mode of impelling vessels by the power of men and of horses applied to the paddle-wheels. The idea of using steam power he owed to the tutor of his family, Mr. Taylor. The difficulty was, how to apply the engine to the boat, and Mr. Symington, an engineer, who was at that time endeavouring to adapt the steam-engine to wheel carriages, was consulted. By the joint exertions of the three, a plan was formed, and a twin or double pleasure boat built with the engine in a strong oak frame placed on one side, the boiler on the opposite side, and the paddle-wheels in the middle. The success of the experiment was complete, and the boat went at the rate of five miles an hour. Mr. Miller had a larger boat built soon after, which was tried in the presence of many spectators; but unfortunately the paddle-wheels broke. A second trial was made with stronger wheels, on the 26th of December, 1789, when it was found that the vessel sailed at the speed of seven miles an hour.

In 1801, Mr. Symington was employed by Lord Dundas to make a tug boat for dragging vessels on the canal. The Charlotte Dundas was accordingly constructed, which "took in drag," says Mr. Symington, "two loaded vessels, each upwards of seventy tons burden, and with great ease carried them through the long reach of the Forth and Clyde Canal to Port Dundas, a distance of nineteen miles and a half in six hours, although the whole time it blew a very strong breeze right ahead." Its use was relinquished from an opinion, held by some of the canal proprietors, that the paddle wheels injured the banks of the canal.

A year or two after, Symington was visited by an American, Mr. Fulton, who had been engaged in steam-boat experiments on the Seine, under the patronage of Mr. Livingstone, the American chancellor. Symington took him on board the Charlotte Dundas, had it put into motion, and furnished him with all the information he desired. Fulton then ordered an engine of Boulton and Watt, it is said under an assumed name, had it conveyed to America, and, in 1807, the Clermont with the Soho engine was launched in the Hudson river, to sail between New York and Albany—the first American steamer, and the first steam ship anywhere, regularly employed for commercial purposes. The Americans have also the credit of being the first to venture on deep sea navigation in steamers; this bold feat—as it was then accounted—being accomplished by Mr. Stevens of Hoboken, who had his vessel taken from the Hudson to the Delaware by sea.

In 1813, the Cornet, a vessel of about twenty-five tons, was built at Port Glasgow, by order of Mr. Henry Bell, and was the first steam passage ship in Britain. It plied on the Frith of Forth. By and bye, others were started, and such sea voyages as between Great Britain and Ireland, and from Leith to London, or Glasgow to Liverpool, were ventured upon.

The next great advance in steam navigation was made by Mr. Napier, by whose means a regular steam communication was established between Greenock and Belfast, and to him is due the praise also of getting post-office steam packets established. In 1822, the "James Watt" steam vessel was built, to ply between Leith and London. "With the exception of the low proportion of its power to its tonnage," says the historian of steam navigation in the Encyclopædia Britannica, "the 'James Watt' possesses almost all the qualities of the most improved vessels of the present day." In 1826, the "United Kingdom" was built, the first of the Leviathan class of steamers; and, in 1838, notwithstanding the outcry as to its impracticability, regular steam communication across the Atlantic was established, thus bringing the old and new worlds into close neighbourhood.

It is time to return from this digression to Watt's personal history. He had been peculiarly happy in the choice of a partner, for Mr. Boulton, in the most judicious manner, took all the cares of business on himself, so as to leave Watt free to devote all the energies of his inventive mind to the advancement of science and the useful arts. The application of the powers of steam to give a rotary motion to mills, occupied much of his attention. After various unsuccessful attempts, he was induced "to turn his thoughts to the adaptation of the reciprocating motion to the production of a continued regular rotary one. This he accomplished by a series of improvements, the exclusive property of which he secured by successive patents in the years 1781, 1782, 1784, and 1785; including, among other inventions, the rotary motion of the sun and planet wheels, the expansive principle, the double engine, the parallel motion, and the smokeless furnace. The application of the centrifugal regulating force of *the governor* gave the finishing stroke to the machine."* Thus perfected, how truly is it found to justify Lord Jeffrey's remarks, that it "has increased indefinitely the mass of human comforts and enjoyments, and rendered cheap and accessible all over the world the materials of wealth and prosperity. It has armed the feeble hand of man, in short, with a power to which no limits can be assigned, completed the dominion of mind over the most refractory qualities of matter, and laid a sure foundation for all those future miracles of mechanic power, which are to aid and reward the labours of after generations."

In 1780, Watt invented a machine for copying letters and drawings; and in the winter of 1784 contrived an apparatus for heating the room in which he wrote by steam. In 1786, he and Mr. Boulton went to Paris, by invitation of the French government, to suggest improvements in the mode of raising water at Marly. While there, Berthollet communicated to him his discovery of the bleaching properties of chlorine. On his return, Watt informed his father-in-law of the process, and under his direction it was successfully tried at Mr. M'Gregor's bleach-field, near Glasgow. The introduction of this valuable improvement into Britain must, therefore, be numbered amongst the many benefits bestowed upon it by means of this great man.

From early youth he had been fond of chemical studies, and in this department, likewise, he was destined to be a successful inquirer. In a letter, written to Dr. Priestley, on the 28th of April, 1783, he announces his hypothesis as to the composition of water, to which he had been led by some of Priestley's experiments. Cavendish, as is well known, came to similar conclusions about the same time, and verified them by experiment. We do not enter on the vexed question as to whom the honour rightly belongs of being considered the discoverer of the composition of water, "the greatest and most prolific discovery," says M. Arago, "of modern chemistry;" but it is certain that Watt did not borrow his theory from any other person.

On the expiration of his patent, in 1800, he retired from business, with abundant wealth, full of years, and loaded with honours, an active, prosperous, cheerful old man. But even he had to feel, that in his best estate "man walks in a vain show." Death entered his family and snatched from the affectionate parent the dearly-cherished youngest son. Gregory Watt, who had, with his elder brother, succeeded to his father's business, was a young man of high mental endowments, distinguished attainments, and brightest promise, when disease and death came to withdraw him from all earthly occupations. It was a sore stroke to the aged father, and reads a salutary lesson to all.

Although no longer in business, Watt was still busily and usefully employed. Having been applied to by a Glasgow company for advice as to the conveyance of water across the river from a well which afforded a natural filter, he proposed to lay across the bed of the river a flexible main with ball and socket joints, the idea of which was suggested to him by a lobster's tail; and some time after it was effected with entire success.

He paid his last visit to Scotland in 1817, when his friends were delighted to find him active and cheerful as ever. The next year Mr. Watt invented a machine for copying pieces of sculpture. Though never finished, several specimens were executed by it, which he distributed amongst his friends as "the work of a young artist just entering his eighty-third year."

Early in 1819, symptoms of declining health alarmed his friends, and on the 25th of August his long and useful life closed, at Mr. Watt's own residence, Heathfield, in Staffordshire. His health had been delicate from childhood, and during a large portion of his life he suffered greatly from headache; yet, notwithstanding his incessant labours, he lived to see his eighty-fourth year. No doubt the simplicity and temperance of his habits tended to counteract the natural debility of his constitution. In life many honours had been bestowed upon him. He was a member of the Royal Societies both of London and Edinburgh, and a corresponding member of the Batavian Society. The University of Glasgow bestowed on him the honorary degree of LL.D. in 1806, and he was one of the foreign members of the National Institute of France. After death, filial affection and public gratitude awarded him such homage as monuments and statues can give. A marble statue, by Chantrey, rests on his tomb; another, by the same artist, was presented by his son to the University of Glasgow; and, far better, £3,500 was expended by the younger Watt in a handsome building for a library in his father's native town, in which the inhabitants have placed a statue of their distinguished townsman. Every one who has visited Westminster Abbey will remember the colossal statue of Watt, also the work of Chantrey, which stands there, bearing an inscription from the pen of Lord Brougham.

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* Encyclopædia Britannica.

Mr. Watt was no less beloved for his private virtues than respected for his public services. He is another instance, added to the many already on record, of greatness and amiableness combined,—of a man with intellect sufficient to conceive and execute the greatest designs, and the plain, practical good sense and good temper which give security to friendship and happiness to all around. He claimed no right of genius to infringe the laws of social life, and indulge his own whims at the expense of the feelings and convenience of others.

GERARD DOUW.

Art is the child of nature. In art nature is reproduced; and in proportion as that reproduction is correct or incorrect, art is true to its vocation. Dr. Syntax tells us that nature must be improved, and the French painters used to talk about nature wanting harmony and being a great deal too green; but, with due reverence to Dr. Syntax and the French painters, we hold that nature is unimprovable, neither wanting harmony nor yet too green, but perfect in all its forms of beauty. From a daisy to a primeval forest, there is not a stone, a leaf, a flower, a whisp of gossamer sauntering about in the golden air, or a gay winged butterfly sailing in the ether, but possesses all that is beautiful and great and grand.

The painters of various countries have represented their national peculiarities—circumstances have induced them to reproduce certain objects in a certain way, and the result has been what we commonly call schools of art. The Florentines were remarkable for a grandeur of design, almost approaching the gigantic—an ideal majesty, though withal possessing a certain dark severity, as may be seen in the works of Massolino, Castagna, and Michael Angelo—himself majestic as his own ideal. In Rome, surrounded by the monuments of former greatness, classic genius revived, and Raphael became the painter for all people and all time. At Venice, the beautiful city in the sea, where nature presents some of her most charming aspects, the painters delighted themselves in presenting a mixture and variety of colours, and produced grand and vigorous effects by the contrasts of light and shadow. Corregio gave the distinguishing characteristics to the school of Lombardy—graceful design, mellowness of pencil, beautiful colouring. The French, the Flemings, the Germans, have each their own peculiarities, and the Dutch pictures have always found admirers. If the Dutch painters have chosen low subjects of imitation—and everybody who thinks of a Dutch picture idealises the interior of an untidy kitchen, or the inside of a low beer-house—they have represented them with great exactness. "If they have not succeeded in the most difficult parts of the claro-obscuro, they at least excel in the most striking, such as in light confined in a narrow space, night illuminated by the moon, or by torches, and the light of a smith's forge. The Dutch understand the gradations of colour. They have no rivals in landscape painting, considered as the faithful representation of a particular scene. The Dutch distinguish themselves by their perspective, by their clouds, sea scenes, animals, fruit, flowers, and insects, and they excel in miniature painting; in short everything which requires a faithful imitation, colour, and a nice pencil, is well executed by the Dutch painters."

Foremost among the artists of this school stands Gerard Douw. His name is sometimes written Gerhard Douw; and he was born at Leydon in 1613, and died in 1674, aged sixty-one. In early life he received instruction from Bartholomew Dolendo, an engraver; and Peter Kouwhoorn, a painter on glass, found in young Douw an apt pupil. The boy loved art, and at fifteen became the disciple of Rembrandt. To this great painter is to be ascribed that excellence in colouring, that breadth of light and shadows, which afterwards distinguished the works of Gerard Douw; but with all the genius for grandeur of designs and startling effects of claro-obscuro, he united that extreme delicacy of finish which is one of the chief characteristics of his works. Sandraart relates that having once, in company with Bamboccio, visited Gerard Douw, they could not forbear admiring the prodigious neatness of a picture which he was then painting, in which they took particular notice of a broom; and expressing their surprise at the excessive neatness of the finishing of that minute object, Douw told them he should spend three days more in working on that broom before he should account it entirely complete. In a family picture of Mr. Spiering (Douw's principal patron) the same author asserts, that Mrs. Spiering sat five days for the finishing of one of her hands that lay on an arm-chair.

Everything that Douw produced had exactly the true and lovely tints of nature, and his pictures possess their peculiar advantages, they retain their original lustre, and have the same beautiful effect at a proper distance as they have when submitted to the closest inspection. The picture known as "The Dropsical Woman," an engraving of which we present to the reader, is a most perfect and complete specimen of this master's style, possessing at once the broad effect of shadow, and the most delicate and careful detail. The execution of the painting is astonishingly fine, and although the shadows appear a little too dark, the whole has an inexpressible, bold effect. This picture fell a prey to the French plunderers, and was carried to Paris, and is now preserved in the Louvre. It is one of the most pathetic pictures of this great master. It is the *chef-d'œuvre* of his daylight works. In representing the chamber of an opulent family, everything in the room presents the most magnificent appearance, it is richly decorated and furnished. A sick lady sits in an arm-chair, her daughter kneels before her, weeping and kissing her hand,—the bitterness of death approaching,—a servant gives her the medicine, and in the front of the picture stands a physician fantastically dressed, turning to the window and examining a bottle full of water. This picture was given by the Elector Palatine to Prince Eugene, and after his death remained in the gallery at Turin, until the French carried it off and placed it in the Louvre. In 1815, they bought off its restitution at the price of 100,000 francs.

The compositions of Douw have always been in great request, and it would be difficult to find a collection of Dutch cabinet pictures, the principal ornament of which does not consist in one or two of his productions. The galleries of his native country, the German galleries of Dresden, Munich, Vienna, and Berlin, the Louvre, and the English collections, are all rich in these little treasures. In one is painted a window, out of which a maid servant empties a kitchen pot; in another she is employed in the preparation of dinner; in a third she holds a light, and looks out of the window into the dark with a smiling face. Here we look through a window into the atelier of a painter; there into the cheerful apartment of an old woman engaged in spinning. In a picture in the Louvre is the shop of a grocer, with various goods piled up and people standing before the counter, for whom the mistress is weighing what is required. In the Munich gallery there is a pastrycook's shop illuminated by the light of a candle; another in the Berlin museum represents a store room with all sorts of provisions, the cook is just opening the door with a lighted candle in her hand which lights up her countenance in an agreeable manner; she steps on tiptoe in order not to disturb a mouse, who has evidently done what he chose with all the good things around him, and is just on the point of stepping into a trap.* All the pictures are remarkable for the utmost delicacy and minuteness of finish.

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* Sir E. Head.